

**ABSTRACT**

A method and apparatus for transporting Asynchronous Transfer Mode protocol cells over an Internet Protocol backbone network is disclosed herein. ATM signaling cells are initially received at a source gateway interconnected to the IP backbone. The signaling message is converted to an H.323 message and transmitted to a controller which provides ATM to IP address translation. The corresponding IP address is received at the source gateway and ATM bearer cells of the same call as the original ATM signaling cell are encapsulated with IP headers which include the IP address to form an IP packet which keeps the ATM cells intact within the packet. The IP packet is transferred onto the IP backbone network and routed to the appropriate destination gateway where the IP packets are decapsulated to retrieve the original ATM bearer cell.